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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Lahcen BENNAI, et al.

Docket No: Q62303

Appln. No.: 09/736,298

Group Art Unit: 2462

Confirmation No.: 8442

Examiner: Rhonda L. MURPHY

Filed: December 15, 2000

For: COMMUNICATION METHOD USING ONE ACCESS

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following Appeal Brief.

I hereby certify that this Appeal Brief is being transmitted via facsimile to the U.S. Patent and Trademark Office on June 23, 2011.

David J. Cushing

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I. REAL PARTY IN INTEREST

The real party in interest is Alcatel Lucent, the assignee.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-5, 9 and 11-13 are pending in the application.

Claims 1-3, 5 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi et al (USP 5,978,380) in view of Kato (USP 6,683,880) and further in view of Vernooij et al (USP 6,345,091).

Claims 4 and 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi et al in view of Kato and further in view of Barnes et al (USP 5,416,779).

All of claims 1-5, 9 and 11-13 are appealed.

IV. STATUS OF AMENDMENTS

There were no amendments filed subsequent to the final Office action.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Referring to Fig. 1, an integrated services digital network (ISDN) primary access (e.g., Access A1 designated by reference number 3) typically includes thirty data paths 4, one signaling path 5 and one maintenance path 6. When a communications channel is established between two parties over ISDN, data is carried on one of the thirty data paths 4, and signaling information corresponding to the channel is carried on the signaling path 5. A prior art ISDN access would include all of the thirty data paths, one signaling path and one maintenance path on a single physical medium 3. A problem is that the entire access is unusable if the signaling path 5 fails.

The present invention addresses concern over the availability/dependability of the signaling channel through a combination of features. First, the invention provides multiple signaling channels so that if one fails there is another to take over. The invention assigns priorities to the signaling channels and will always use the highest priority signaling channel available. The present invention addresses this problem by providing at least one back-up, assigning a priority to the various signaling channels, and then using the highest priority signaling channel that is available. Thus, for example, under normal circumstances the path 5 would carry the signaling information for all of the paths 4, and if the path 5 fails then the system would switch to a backup path to carry the signaling information that would otherwise have been carried by the path 5.

Second, the plural signaling channels include channels (e.g., 5 and 24 in Fig. 1) on different physical accesses, and a signaling channel on one physical access is permitted to support calls being carried on a different physical access.

Claim 1 is directed to a communication method incorporating the above-described features. In the context of claim 1, the first access is at 3 in Fig. 1, the one information channel is at 4 in Fig. 1, and the one signaling channel is at 5 in Fig. 1. The at least one additional signaling channel is at 24 in Fig. 1 and is in a signaling path of a second access (Access A2) which also provides a plurality of information channels, the additional signaling 24 channel being on a different physical medium from the first signaling channel 5 and for use in conjunction with the one information channel 4 on the different physical access A1. According to the invention, as shown in the flow chart of Fig. 2, signaling channels are prioritized, and if the first priority signaling channel is functional, it is used. If the first is not, the second is used if functional, and so forth. Thus, the highest priority functional signaling channel is used. The determining of an order of priority is described at lines 35-37 of page 5, assigning the highest priority functional signaling channel to the access is described at pages 6-7 and illustrated in Fig. 2.

According to the invention, the at least one additional signaling channel is formed from a channel which can be used as an information channel of said second access A2. This is described at lines 2-32 of page 9 of the specification.

A further feature of the invention is that, in order to ensure that the signaling channel does not overload and cause degradation of all of the calls being supported by the signaling

channel, when the signaling channel in service becomes too congested the invention the system of this invention inhibits functionality of a subset of the information channels.

The inhibition of the functionality of information channels is described in the specification in the paragraph bridging pages 7-8 of the English translation filed August 16, 2001, and is illustrated in Fig. 2 at step 23.

In the context of claim 4, the first access is at (3) in Fig. 1, the plurality of information channels at (4), the signaling channels at (5) and (24), the determining of an order of priority is described at lines 35-37 of page 5, assigning the highest priority functional signaling channel to the access is described at pages 6-7 and illustrated in Fig. 2, and the step of inhibiting functionality of a subset of said information channels if the signaling channel in service is congested is described in the paragraph bridging pages 7-8 and illustrated at step 23 in Fig. 2.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed, including the statute applied, the claims subject to each rejection and the references relied upon by the examiner are as follows:

1. The rejection of claims 1-3, 5 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi et al (USP 5,978,380) in view of Kato (USP 6,683,880) and further in view of Vernooij et al (USP 6,345,091).

2. The rejection of claims 4 and 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi et al in view of Kato and further in view of Barnes et al (USP 5,416,779).

VII. ARGUMENT

1. Claims 1-3, 5 And 9 Are Not Unpatentable Over Kobayashi et al In View Of Kato And Further In View Of Vermooij at al.

According to the invention of claim 1 there are two different accesses on different physical mediums, each access having a plurality of information channels and a signaling channel. While the signaling channel of the second access (the "additional signaling channel") would ordinarily be for use only in conjunction with the information channels of that second access, according to the present invention this second access signaling channel is for use in conjunction with at least one of the information channels of the first access. According to the feature recited in the last two lines of claim 1, the "additional signaling channel" in the second access is formed from a channel which can be an information channel of the second access.

In rejecting claim 1, the examiner relies on Kobayashi to teach the provision of first and second accesses (physical cables 30a and 30b in Fig. 10) on different physical mediums (physical cables 30a and 30b in Fig. 10). The examiner asserts that the first physical cable 30a has a plurality of information channels and at least one signaling channel, referring to lines 17-21 of col. 2, and he similarly asserts that the second physical cable 30b has a plurality of information channels and at least one signaling channel, referring to lines 15-21 of col. 11. It is submitted that the examiner is in error. Lines 17-21 of col. 2 simply describe the existence of a shared common signaling channel, but there is no mention of where that common signaling channel is located. Lines 15-21 of column 11 discuss the operation of an ATM switch but there is no mention of where a common signaling channel is located.

What in fact is described in Kobayashi et al, e.g., as summarized at lines 45-60 of column 3, is a signal common signaling channel 2 between the exchange 3 and the exchange 4, and a mechanism for varying the capacity of that one common signaling channel. The concept implemented by Kobayashi et al is illustrated in Fig. 6, and described in the paragraph bridging columns 6 and 7, is that there is a part of a cable that is always used for speech channels, a part ("steadily maintained region" 42) that is always used for a common signaling channel, and a part ("temporarily maintained region" 43) that can be used for either and can thereby be used to temporarily increase the size of the signaling channel when not needed by the speech channels.

The embodiment of Fig. 10 is described beginning at line 41 of column 10. There are two cables 30a and 30b, with a part of the cable 30a is set aside as the "steadily maintained region" of the common signaling channel, and a part of the cable 30b being reserved for a "temporarily maintained region." While not explicitly stated, it is clear from the described operation that there is also a "temporarily maintained region" in the cable 30a, e.g., seelines 8-15 of column 11. In the operation described in the paragraph beginning at line 4 of column 11, when the capacity of the common signaling channel needs to be increased, this will be done using unused and available capacity in the cable 30a, and if there is not enough available in the cable 30a then the capacity in the "temporarily maintained region" of the cable 30b will be used.

Claim 1 requires two different signaling channels, one on a first access and one in a second access. Kobayashi et al discloses only single common signaling channel. It is implemented using channel capacity on two different cables, but it is a single common signaling channel.

This was pointed out to the examiner in a Request for Reconsideration filed by appellant on December 23, 2010, and in an Advisory Action mailed February 1, 2011, the examiner disagrees, stating:

> Fig. 10 [of Kobayashi] illustrates two physical cables, 30a and 30b, each having a signaling channel - common signal signal [sic], as described in column 10, lines 46-50, and further in column 11, lines 15-27, which recites in part, "the common signal channel in the interoffice physical cable 30a and the common signal channel in the interoffice physical cable 30b have already been established." Thus, each physical cable 30a and 30b has a signaling channel.

But what the examiner overlooks is that the common signaling channel in cable 30b is described as being only in the temporarily maintained region, which means that it cannot be used for signaling channel purposes if the channels in that region are needed for voice. So the common signaling channel in cable 30b, while referred to at lines 26-27 of column 11 as already being "established," is not a separately functional signaling channel but is only *reserved* for a signaling channel exactly according to the passage quoted by the examiner. It is reserved in the temporarily maintained region of cable 30b, and is only reserve capacity that can be added to the permanently maintained signaling channel of cable 30a.

Note that throughout the specification Kobayashi consistently refers to management of the capacity of ***the*** common signaling channel, not plural channels. Consistent with this, the fourth embodiment of Fig. 10 is described at lines 23-25 of column 10 as an apparatus for establishing a common signaling channel. Lines 50-53 of column 10 describe the signaling channels in the cables 30a and 30b as being assigned the same channel identifier, so they will operate as a single common signaling channel. Lines 14-21 of column 11 clearly describe that

the signaling channel capacity of the cable 30b is only used if the capacity available on cable 30a is not enough. It is clear that the signaling channel capacity of cable 30b is simply extra capacity for the one signaling channel in the arrangement.

Kato is relied on by the examiner to teach determining an order of priority of the use of signaling channels, and assigning the highest priority functional signaling channel to the first access. Accepting only for purposes of discussion here that Kato does indeed teach this, it would not have been obvious to adopt this feature in Kobayashi et al because Kobayashi et al does not have plural signaling channels, only one. The part of the cable 30b in Kobayashi et al that is available for use to increase the capacity of the common signaling channel cannot be assigned a priority for use. It is not a common signaling channel by itself. It is merely channel capacity that can be used by the one common signaling channel. The "temporarily maintained region" in the cable 30b cannot be functional as a signaling channel separate from the signaling channel in cable 30a, and there is no logic to "assigning the highest priority functional signaling channel to the first access" as is required in claim 1.

The examiner does further state at the bottom of page 4 of the Office action that it would have been obvious to provide another signaling channel, but there is certainly no suggestion of this in Kobayashi et al. The examiner broadly supports the assertion by arguing as to why different physical media would make sense, and appellant disagrees with the stated logic, but the important point is that the reasoning only goes to the logic of different physical media, and there is no reason for Kobayashi et al to have two different signaling channels in the first place. And importantly, if there were two separate signaling channels provided, it is hindsight to conclude

that they would have been provided in the manner recited in claim 1. A separate signaling channel in cable 30b would have been used for the information channels in cable 30b. A temporarily maintained region in cable 30a would be used to increase the capacity of the signaling channel in cable 30a, and a temporarily maintained region in cable 30b would be used to increase the capacity of the signaling channel in cable 30b. There is no reason to believe that, when the temporarily maintained region in cable 30b is needed to be available for increasing capacity of the signaling channel in cable 30b, it would still be available for use by the signaling channel in cable 30a.

In responding to this argument in the Advisory Action mailed February 1, 2011, the examiner states:

> In regard to the Kato reference, applicants further argue it would not have been obvious to adopt the feature of determining an order of priority of use of the signaling channels, and assigning the highest priority functional signaling channel to the first access, because Kobayashi does not have plural signaling channels. As previously stated, Examiner respectfully disagrees and the above column and line numbers, along with Figure 10, show the Kobayashi reference teaching two physical cables 30a and 30b each having a signaling channel. Thus, it would have been obvious to one skilled in the art to combine Kato's teaching of "determining an order of priority of the use of the signaling channels, and assigning the highest priority functional signaling channel to the first access," for the purpose of providing signaling information in an ordered fashion, according to available capacity in the signaling channel and further improve reliability of the service connection.

But what the examiner continues to ignore is that the signaling channel capacity in cable 30b is only in the temporarily maintained region, and cannot possibly be given priority over the permanent signaling channel of cable 30a, because it is only in the temporarily maintained region and at any time may not be available at all for signaling purposes. It is nonsensical to describe

the assigning of a higher "priority" to an overflow capacity, and to assign the highest priority functional signaling channel when there is only one functional signaling channel formed by the capacities of both of cables 30a and 30b.

In sum, claim 1 requires two different accesses each including a plurality of information channels and a signaling channel, and there is no separate signaling channel in the cable 30b of Kobayashi et al, only channel capacity that can be used when needed to increase the capacity of the one signaling channel provided in Kobayashi et al. Claim 1 requires the assigning of priorities, and this makes no sense in Kobayashi et al because there is no separately functional signaling channel in the cable 30b. Claim 1 requires the assigning of the highest priority functional signaling channel to the first access, but the "temporarily maintained region" in the cable 30b can never be a separate functional signaling channel, so this makes no sense at all. Kato make teach prioritizing signaling channels, but Kobayashi et al does not have plural signaling channels to prioritize.

The examiner relies on Vernooij to teach the use of an unused data channel as a signaling channel. Vernooij addresses a problem wherein a base access has two 64 kbit/s data channels, and a primary rate access has thirty 64 kbit/s data channels, but sometimes a customer needs more than a base access can provide but less than a primary access provides. So Vernooij proposes a way to adapt a primary rate access for sharing by multiple customers. But each customer will require its own signaling channel, so what Vernooij proposes to do is to use one the of B channels of the primary rate access as a signaling channel, thereby allowing two different PBX's to use the same primary rate access

Appellant submits that it would not have been obvious to adopt the Vernooij teaching in the system of Kobayashi. But that is not important for purposes of the present appeal. What is important to note is that Vernooij does not make up for the deficiencies of Kobayashi and Kato in teaching the other features of claim 1, i.e., two different signaling channels on different physical media which are assigned relative priorities and then the highest functional signaling channel is assigned to a data path despite the data path being on a different physical medium.

1A. **Dependent Claims Are Separately Patentable –**

The dependent claims 2, 3, 5 are due to their dependence on patentable claim 1. In addition, these claims recite additional details which are further nonsensical in the combination proposed by the examiner. Claims 3 and 9 further emphasize the prioritizing of signaling channels and the constant monitoring of the highest priority signaling channel even when it is not in use. This does not make sense in Kobayashi et al where there is only a single signaling channel. Further, as to claim 3,the examiner argues that it would have been obvious to monitor the signaling channel because for it to be not in service it has to first be determined to be inoperative. But this misses the point. Claim 3 recites that it is regularly tested when it is not in service, i.e., this is testing that is performed regularly after the signaling channel as been determined to be inoperative and some other signaling channel has been substituted. This is simply not shown in the art.

> Examiner disagrees with the arguments made in regard to independent claim 4 and dependent claims 2, 5 and 9 for the same reasons described above. In regard to claim 3, it would have been obvious to one skilled in the art to regularly test a highest priority signaling channel when the highest priority signaling channel is not in service, for the

purpose of determining when a higher/better priority channel is available for transmission and further improve reliability of the service connection.

But the examiner is ignoring what is present in Kobayashi. Kobayashi discloses a permanently maintained signaling channel on cable 30a and a temporarily maintained signaling channel capacity in cable 30b. It is not possible that a "higher priority" signaling channel would be out of service and instead the lower priority cable 30b capacity would be in use.

2. **Claims 4 and 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobayashi et al in view of Kato and further in view of Barnes et al (USP 5,416,779).**

First of all, claim 4 is similar to claim 1 in reciting the provision of plural signaling channels, the prioritizing of those signaling channels, and the assigning of the highest priority signaling channel to the first access, and Kobayashi et al does not have plural signaling channels but only a single signaling channel. It is not possible to assign priorities to the signaling channel portions of each of the cables 30a and 30b because the signaling channel portion of the cable 30b is only used to temporarily increase the capacity of the signaling channel by adding to the signaling channel portion of cable 30a, so the signaling channel portions of cable 30b would never be used *instead of* the signaling channel portions of the cable 30a.

Second, Kobayashi does exactly the opposite of what is recited in the last three lines of claim 4. When the signaling channel is congested, Kobayashi et al increases the capacity of the signaling channel. That is the entire purpose of the Kobayashi et al invention. Modifying it so that it would instead decrease communication capacity by inhibiting information channels would

defeat the entire purpose of Kobayashi et al invention and could not have been an obvious modification.

Thus, the modification to Kobayashi would run directly contrary to the purpose of Kobayashi and cannot be considered obvious absent some explicit teaching in the art to make this modification, and there is no such explicit direction.

Further, even if the teaching of Barnes were adopted in Kobayashi, it would in any event not result in the claimed invention. Claim 4 requires that when the signaling channel is congested, one or more of the information channels can be neutralized such that the neutralized channel cannot be used for setting up calls or modifying existing calls. The examiner reads the claimed "neutralizing" excessively broadly, and considers it to read on the operation of Barnes et al wherein a B-channel can be muted when errors are detected. But Barnes is simply seeking to prevent the user from having to listen to the poor sound quality of a degraded channel. There is nothing that suggests this should be done when a signaling channel is not sufficiently functional Further, muting a channel is not neutralizing it, nor is it inhibiting the functionality of a channel. The channel still works to its fullest, and it is only the reproduction of audio from the channel that is affected in Barnes.

Regarding claims 11-13, the examiner discusses these claims at pages 9-10 of the Office action but repeatedly refers to Kobayashi, Kato and Kim, although Kim is not relied on in rejecting the claims so it is unclear what the basis is for the rejection of these claims. In addition, the examiner acknowledges that the art does not teach the subject matter of these claims, but merely alleges that it would have been obvious to render a subset of channels unavailable for

setting up calls, providing no explanation as to why this would have been obvious even though directly contrary to the basic purpose of the primary reference.

The examiner provides no meaningful response to this issue in the Advisory Action of February 1, 2011.

VII. CONCLUSION

For all of the reasons set forth above, reversal of all rejections is respectfully requested.

Respectfully submitted,

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Date: June 23, 2011

CLAIMS APPENDIX

CLAIMS 1-5, 9 and 11-13 ON APPEAL:

1. A communication method using a first access (3)providing a plurality of information channels including one information channel (4) for transmitting voice and first data and having at least one signaling channel (5) for transmitting signaling signals and second data relating to at least one of said access and said first data, said method further comprising the step of providing at least one additional signaling channel in a signaling path of a second access which also provides a plurality of information channels, said additional signaling channel being on a different physical medium from said first signaling channel and for use in conjunction with said one information channel, determining an order of priority of the use of the signaling channels, and assigning the highest priority functional signaling channel to the first access, wherein said step of providing at least one additional signaling channel comprises the step of forming said additional signaling channel from a channel which can be used as an information channel of said second access.

2. A method according to claim 1, characterized in that the information channel for transmitting voice and first data is on a different physical medium from at least one of the signaling channels (5,9,10).

3. A method according to claim 1, characterized in that the operational status of the highest priority signaling channel is regularly tested (17) when said highest priority signaling channel is not in service.

4. A communication method using a first access (3) including a plurality of information channels (4) for transmitting voice and first data and one signaling channel for transmitting signaling signals and second data relating to at least one of said access and said first data, said method further comprising the step of providing at least one additional signaling channel for use in conjunction with at least one of said information channels, determining an order of priority of the use of the signaling channels, and assigning the highest priority functional signaling channel to the access, said method further comprising the step of inhibiting functionality of a subset of said information channels if the signaling channel in service is congested.

5. A method according to claim 1, characterized in that each said access provides thirty information channels.

9. A method according to claim 1, wherein said first and second accesses are each ISDN accesses having B channels for information and a D channel for signaling, and wherein a B channel of said second access is converted to said additional signaling channel.

11. A method according to claim 4, wherein said step of inhibiting functionality comprises rendering said subset of said information channels unavailable for use in setting up calls.

12. A method according to claim 4, wherein said step of inhibiting functionality comprises rendering said subset of said information channels unavailable for use in modifying calls that have already been set up.

13. A method according to claim 4, wherein said congested signaling channel is incapable of managing all signaling signal transmissions for all information channels of said first access.

EVIDENCE APPENDIX

There is no evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other evidence entered by the Examiner and relied upon by Appellant in the appeal.

RELATED PROCEEDINGS APPENDIX

There are no decisions rendered by a court or the Board in any proceeding identified above in Section II pursuant to 37 C.F.R. § 41.37(c)(1)(ii).